INTEGRATING AN AIR SEPARATION UNIT INTO AN OXYGENATE-TO-OLEFINS REACTION SYSTEM

ABSTRACT

This invention provides an integrated system and process for forming light olefins and polymers from oxygenates, and optionally from natural gas. The integrated system includes an air separation unit, which separates air components into an oxygen stream and a nitrogen stream, and which also forms a compressed air stream. According to the present invention, the oxygen stream, the nitrogen stream and/or the compressed air stream from the air separation unit may serve as a reactant in syngas generation, as a regeneration medium in the methanol-to-olefins reaction system, as a fluidizing stream, as a blanketing medium, as a stripping medium, as instrument air, and/or as a reactant in a sulfur removal unit.